CS3600 – Summer AY03
MAC Questions

Name: _____

Due: Monday, July 28th (at the start of class)

In the exercises below, the secrecy policy is the Bell and LaPadula Model, while the integrity policy is the Biba Model. Assume that writing is only allowed when the access class of the subject equals the access class of the object.

Fill in the blanks provided, indicating which objects the described subjects can read or write.

1. Secrecy levels and secrecy compartments.

    Secrecy Levels   Secrecy Compartments
    TS > S > C > U   {Nuke, Tax, Bio, Space}

Object	Access Class
File1	TS {Nuke}
File2	S {Bio, Nuke, Space}
File3	U {Tax}
File4	S {}

Subject	Access Class
Subject1	TS {Nuke}
Subject2	TS {}
Subject3	S {Tax, Bio, Nuke}

Subject	Objects it Can Read	Objects it Can Write
Subject1		
Subject2		
Subject3		

2. Integrity Levels.

    Integrity Levels
    Reliable > Fair > Questionable

Object	Access Class
File1	Reliable
File2	Fair
File3	Questionable

Subject	Access Class
Subject1	Reliable
Subject2	Fair
Subject3	Questionable

Subject	Objects it Can Read	Objects it Can Write
Subject1		
Subject2		
Subject3		

3. Secrecy Levels and Integrity Levels.

Secrecy Levels   Integrity Levels
TS > S > C > U   Secadmin > Admin > Operator > User

Object	Access Class
File1	TS : Operator
File2	TS : User
File3	C : Admin
File4	S : Operator

Subject	Access Class
Subject1	TS : User
Subject2	C : Admin
Subject3	S : User

Subject	Objects it can Read	Objects it can Write
Subject1		
Subject2		
Subject3		

4. Secrecy levels, secrecy compartments, and Integrity levels.

Secrecy Levels   Integrity Levels
TS > S > C > U   Secadmin > Admin > Operator > User

Secrecy Compartments
{Nuke, Tax, Bio, Space}

Object	Access Class
File1	TS {Nuke}: Operator
File2	TS {Nuke, Bio}: User
File3	C {}: Admin
File4	S {Space}: Operator

Subject	Access Class
Subject1	TS {Nuke}: Admin
Subject2	C {Tax} : Admin
Subject3	S {}: User

Subject	Objects it Can Read	Objects it Can Write
Subject1		
Subject2		
Subject3		